

Cognitive radio inventor received IEEE Award

May 9 2011

Dr. Joseph Mitola, Distinguished Professor and Vice President of The Research Enterprise at Stevens Institute of Technology, received the IEEE TCCN Recognition Award at the IEEE International Dynamic Spectrum Access Networks Symposium (IEEE DySPAN), held in Aachen, Germany May 3-6. This award recognizes Dr. Mitola's fundamental contributions to wireless communications as the founder of cognitive radio, and continued contributions in the field through both scholarship and leadership.

Dr. Mitola is recognized internationally for his groundbreaking research in software-defined radio (SDR) and cognitive radio systems and technologies. In addition to having published the first technical paper on software radio architecture in 1991, Dr. Mitola coined the term cognitive radio for the integration of machine perception of RF, visual, and speech domains with machine learning into SDR to make dynamic spectrum access technically viable. His doctoral dissertation, Cognitive Radio (KTH, June 2000), created the first architecture for such autonomous radios, formulating the cognition cycle on which the sensing and opportunistic use of [radio spectrum](#) whitespace is based.

The Technical Committee on Cognitive Networks (TCCN) of the IEEE Communications Society selected Dr. Mitola to receive this award, "For his pioneering contributions to and continuing leadership of the cognitive radio field." Dr. Petri Mähönen, Professor of wireless networks at RWTH Aachen University and TCCN Recognition Award Committee Chair, presented the award in Aachen.

At IEEE DySPAN, Dr. Mitola also participated in a panel on the past and future of cognitive radios. The panel, "Perspectives on Cognitive Radios: The Past and Next 10 Years," included Dr. John Chapin of MIT; Dr. Jon Peha, former Chief Technologist for the FCC and currently serving in the White House Office of Science and Technology Policy; and Dennis Roberson, Vice Provost of Strategy at Illinois Institute of Technology. The discussion centered on the research and economic potential of [cognitive radio](#) and dynamic spectrum access and addressed the nature of the paradigm shift these technologies present.

In his remarks, Dr. Mitola observed that it is no longer effective to think in terms of "strictly licensed or unlicensed bands" and promoted use of the dynamic spectrum databases of the FCC to holistically integrate out-of-band, low-power, high-speed wireless devices into a new "interference control" era. Such progress in secondary spectrum use will enable service providers to observe and control communications for initial consumers in business, healthcare, and other growing markets. Dr. Mitola also stressed the vital need to address security concerns so that these integrated, dynamic networks can elevate user privacy and information assurance.

IEEE DySPAN is a pre-eminent international conference on next-generation wireless communications technologies. Providing holistic insight into the research, commercial markets, and regulatory systems involved in communication development and policy, IEEE DySPAN is a destination conference for a wide range of industry players.

Provided by Stevens Institute of Technology

Citation: Cognitive radio inventor received IEEE Award (2011, May 9) retrieved 23 June 2024 from <https://phys.org/news/2011-05-cognitive-radio-inventor-ieee-award.html>

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